

9. Conclusions and Outlook

What drives the *Energiewende*? This work picked up this question and investigated which patterns and mechanisms shape public policy choice in modern German politics in difference from the past, and why and how exactly some interest groups are more successful than their competitors.

Profound policy change, as it happened in modern energy politics in Germany, runs against all expectations of power resources theories, veto approaches and path dependence. The in-depth analysis of four policy fields over a time period of 15 years as provided in this paper has delivered a contribution to the explanation of this policy change. The logics of political competition have profoundly changed and led to new conditions for interest groups' influence (see chapter 1):

1. The era of *fossil-nuclear corporatism is over*. Political opportunity structures in today's increasingly pluralist Berlin Republic widely differ from the age of the old corporatist Bonn Republic of the 1980ies.
2. While classic power resources are still relevant, *trust* has become the key lobby resource – in other words: If an interest group loses recognition as legitimate and trustworthy partner in the eyes of politicians and the general public, it will be unable to impact a policy choice. Advocacy coalitions that are able to link economic threat potential and high legitimacy will therefore be most assertive.
3. We are entering the era of the *Green Grand Coalition*: All parties have moved towards a more environmental course, in the course of the electoral base of both major parties having more stakes in renewable energies and since the Greens have become a recognized coalition partner, nudging out the anti-environmental FDP as pivotal player for government formation.
4. The *Greening of Path Dependence* towards the epoch of renewables has been initiated and reinforced by moderate and seemingly incremental yet gradually accumulating reforms, which abandoned the previous fossil-nuclear path dependence. The same veto points and veto players that earlier protected the fossil-nuclear status quo now protect the new status quo of the energy transformation.
5. Struggles of intra-party factions between the environmental wing and the economic wing have intensified and created a new *issue dualism*: environmental politicians of a party have often more in common with environmental politicians of a competing party than with economic politicians in their own party, looking at the field of energy and climate politics. The issue dualism also informs intra-governmental preference formation, mirrored in institutional conflicts between the environmental and the economics ministries. This issue

dualism leads to inhomogeneous and erratic party positions, which calls for more attention in veto theories that have thus far under-problematized the inconsistency of party positions.

After their gradual development has begun with the first SPD/Green government in 1998, these logics by now direct political competition in Germany – and can contribute to the understanding of current policy reforms: As the large electricity utilities have lost trust, policymakers are not willing anymore to attend to their interests but to ensure their sheer survival. When utilities lately announced proposals for the reform of the legal funding framework for the dismantling of nuclear power plants, politicians across all parties immediately distanced themselves from their plans and the utilities per se. The latest reform of renewables promotion with the EEG 2014, that began to gradually replace feed-in tariffs by tenders, starting with pilot projects for freestanding solar systems, can be traced back the loss of trust of the solar branch after a sharp increase in funding costs, which negatively impacted the image of the entire branch. Pressure from the EU Commission and the recent shift of leading responsibility for renewables policy to the economics ministry eased the reform. For the highly controversial issue of gas fracking, it is plausible to assume that legislation will be very restrictive, probably even so restrictive that fracking projects de-facto become economically unfeasible – given the lack of acceptance among the population. And: After the nuclear controversy has been solved with the CDU/CSU's new course after Fukushima, a CDU/CSU coalition with the Greens is in preparation and quite likely to be put to test in one of the upcoming legislative terms.

In response to coordination deficiencies and paralyzing conflicts between economics ministry and environmental ministry, the government consolidated the responsibility for the energy transformation through shifting the competence for renewables from the environmental ministry to the economics ministry and renaming it into Federal Ministry for Economics and Energy (*Bundesministerium für Wirtschaft und Energie*). For the sake of a coherent energy policy, the new energy ministry may enhance the political coordination processes, yet the loss of competence for the environmental ministry is likely to be detrimental for environmental interests to the benefit of economic interests. In the latest 2014 amendment of the Renewables Energy Sources Act, the environmental ministry had little to say, and both renewables industry and environmental groups complained about the imminent shift in the promotion scheme, gradually turning from feed-in tariffs to tenders – even though the paradigmatic goal of renewables growth remained in force and was even specified more thorough than before.

The management of the Energiewende also calls for a better multi-level coordination. The ideas and concepts on energy and climate policy strongly differ between federal government and individual state governments. Currently, the national energy concept on federal level

competes with 16 individual and often incompatible concepts on state level, creating confusion over the future energy mix desired. A better coordination and collaboration would avoid inefficient policy choices, economic frictions and disinvestments, and advance key projects such as grid expansion and energy storages.

As the in-depth analysis of policymaking has demonstrated, the economic power of interest groups is by no means the main driver for policy choice. Spectacular individual cases of successful lobbyism or corruption are by no means representative for political decision-making. Accounts that reduce the success of a certain interest group as being purely due to lobbyist tactics, privileged channels or economic pressure neglect that politicians will follow the preferences of interest groups only when they either are already leaning towards their preferences or face electoral pressure, sometimes even without any explicit lobby attempts being necessary at all. In contradiction to the bulk of popular-scientific literature and also large parts of scholarship, which tends to portray lobbyists as shady and powerful string-pullers, this study suggests that civil society has indeed a chance to establish a counter force to allegedly prevailing economic interests. Indeed, the struggle between the fossil-nuclear coalition and environmentalists today reminds of the metaphoric fight between David and Goliath: Goliath seems big, powerful and plainly superior, but the little David can ultimately defeated him, just because he uses the smarter weapons. Also environmentalists and small renewables firms can beat the large energy corporations, for the use of smarter political strategies – yet, they need the ammunition in the form of public support. The big energy corporations today are tied down by political institutions and numerous citizens – just as Gulliver in the land of the dwarves in Jonathan Swift's famous novel.

As the dynamic opportunity structures point out, democracy is far from a merely static construction. Rather, every democracy has its particular features and mechanisms. Also activities of interest groups are subject of varying opportunity structures and matter of legal regulation that aims to ensure fair rules of the game and democratic control. The vast literature on lobbyism regulation proposes the strengthening of the parliament, a more comprehensive and compulsory lobby register, a waiting period for former political office holders before they can assume high-rank business positions, the limitation of secondary incomes for parliamentarians, the better prosecution of bribery and the reform of party financing (for an in-depth discussion, see e.g. Kolbe, Hönigsberger & Osterberg, 2011b; Speth, 2014; Transparency International & Lobbycontrol, 2013; Humborg, 2009; Redfels, 2006; for the EU level: Chari & Hillebrand, 2011; Kretschmer & Schmedes, 2010).

“The energy transformation is a Herculean task”, Chancellor Angela Merkel described the challenges ahead. In the fossil-nuclear age, energy supply was a simple job, since without alternative: The industrialization followed the steady supply with cheap energy. The rise of the Ruhr area with its steel and chemical industry was based on coal mining, while the

advance of Munich and its satellite cities with its automotive industry relied on nuclear power. Now, things are getting more complicated. Against the backdrop of the dynamic of renewables growth, the entire energy system as such is indeed facing new and fundamental challenges.

Thanks to the *Energiewende*, Germany is on the right path to combat climate change and save scarce fossil resources. The transformation of energy supply has become cross-party consensus, and not even the old energy industry is eager to do a retrograde step. In 2014, for the first time in history, renewable advanced to the number 1 source of electricity production in the country, ousting lignite from the first place (Agora, 2014, S. 2). With a share of 27.3% in the electricity mix, renewables dominate the electricity mix – eight times more than in 1990, with a further upward trend. The growth of renewables fell precisely in the politically foreseen growth corridor, which envisions a share of 40-45% by 2025 (ibid., 12). In the same year, Germany recorded a new historical record in electricity exports and remained power export champion in Europe (ibid., p. 10), and the CO₂ emissions declined to the second lowest level since 1990 (ibid., p. 27).

However, after their strong quantitative growth, renewables face challenges of qualitative system integration. The sun does not always shine, the wind does not always blow, and energy crops for biogas cope with limitations in arable land. The high volatility needs to be controlled and the affordability for industry and private households to be secured. On the agenda are smart grids and combined power plants that are meant to better demand and supply into better accordance.

The electricity grid needs to be extended to accommodate and distribute the increasing electricity volumes from wind energy in the Northern part of the country – all the more when larger offshore wind parks in the North Sea and Baltic Sea will be put into operation – and transport them to the consumption centers in the industrialized Southern parts.

The grid extension is adding further costs to the expenses for the promotion of renewables that is on the rise anyways: The surcharge recently increased from 5.28ct in 2013 to 6.24ct 2014. This cost increase brings along burdens for the industry yet also undesired social redistributions at the expense of poor families whose electricity bill eats up an increasing share of their income, and to the benefit of homeowners who are able to enjoy revenues from solar panels and circumvent taxes and surcharges by using self-generated electricity. In addition, the EU Commission recently imposed a reform of industry privileges in the EEG surcharge, since it violated European competition law.

The energy transformation takes place under difficult societal conditions. While the large majority of citizens welcomes renewables and rejects coal and nuclear power, infrastructural projects in the own region trigger local resistance. Wind power plants are suspected to have

negative impacts on landscape and birds, biogas plants may go along with odor pollution, and electricity links may lead to health deteriorations and destroy the natural scenery. As a consequence, many citizens are afraid of falling real estate values, less tourism and a loss in overall quality of life. This phenomenon of “Not in my backyard” protests, often viewed as defamatory, rather is a rational behavior, as citizens want to participate in decision-making and to be compensated for their individual losses. However, this balance in interests is hard to achieve. By early, transparent and active participation and information of citizens, the involvement of all relevant actors as well as of recognized neutral moderators and independent experts, the guarantee of participation equity (i.e. also citizens that may benefit must be heard, not only citizens afraid of losses; structurally underrepresented groups, such as youth or low-income households, shall be involved e.g. through random selection councils), and a transparent and honest risk communication in an open public dialogue, societal acceptance for the energy transformation can be fostered and implementation difficulties can be minimized. In particular for controversial infrastructure projects, be it CCS sites, gas fracking or power lines, concerns of the people must be treated seriously and discursive processes must be deliberately designed to promote local acceptance. Therefore, transparency and justice must be guiding principles to allow for socially compatible conflict management. Beneficiaries and victims of the decision shall be heard and neutral facilitators shall be engaged to reach a fair compromise and create a balance of interests and values affected (Carrera & Hampel, 2013, pp. 179-180; Renkamp, Dufner & Collet, 2013). Thus far, the prospects do not look quite promising: Just in the run-up to the communal elections, Bavarian’s prime minister Horst Seehofer sparked off a political landslide by demanding a moratorium on grid expansion – although he had voted in favor of related laws in the Bundesrat in the first place (Zitzler, 2014).

The advance of large and volatile shares of renewables on the electricity stock market has caused enormous distortions in the merit order of power plants: In the traditional energy market, coal and nuclear power plants served as base load – expensive to build yet with low fuel costs –, while gas power plants – cheap to build and flexible to operate yet with expensive fuel costs – covered the peak load at times of high demand, such as at noontime. The most expensive plant required determines the stock market price of all electricity sold and therewith also ensures the profitability of fossil-nuclear base load power plants. The high feed-in of solar power with fuel costs of virtually zero and foremost delivering electricity at noontime yet has meanwhile led to a decreasing demand for peak load power plants, which made gas power plants economically unviable – even though it is broadly acknowledged that new gas power plants are inevitably required to compensate for the volatility of wind and solar power, since they are way better steerable than big coal and nuclear plants and emit way less greenhouse gases than coal. Facing negative balance sheets, the big corporations

such as RWE and E.ON shut down power plants and release employees. The lack of new generation capacity triggers worries about security of supply for times of low wind and solar generation. However, the flexibility of the power system is already increasing: In 2014, the number of hours with negative electricity prices remained stable, regardless of higher shares of fluctuating sources (Agora, 2014, p. 26).

Against this backdrop, and not least after the EU Commission's recent objections against the German feed-in tariffs, the claim for a comprehensive reform of the entire electricity market design, including renewables promotion, is now being raised from all sides (WD, 2014, p. 5). The principle of "produce and forget" envisaged by the current EEG scheme – i.e. the quantitative growth of renewables in the phase of market introduction – shall give way to a qualitative market integration and penetration. Many ideas are on the table how to make the energy transformation both environmentally sound and economically affordable. Yet, a simple solution is not in sight.

One of the most exciting questions certainly is the role of the formerly powerful energy utilities in the future. Their nuclear power plants are shut down, their fossil power plants cope with restrained profitability, their balance sheets are negative. Apart from investments in offshore wind parks and their stakes in traditional hydropower, they do not have much left. E.ON, the country's largest electricity supplier, has meanwhile split off its nuclear and fossil power generation and announced a new business strategy with an emphasis on renewables and services (E.ON, 2014), just as Vattenfall's plans to get rid off the lignite mining operation in Germany and invest in wind power (Vattenfall, 2015; Der Spiegel, 1.5.2015). Faced with enormous economic pressure, the large energy corporations endeavor to redirect their business strategy and cope with the growing shares of renewables. While no longer militating against renewables per se, they today complain about the implementation difficulties in integrating renewables into the supply system (Kungl, 2013, pp. 24-30). For interest groups from all sides of the spectrum, it is not sufficient anymore to only rely on links to CDU, SPD and FDP; they need links to the Greens as well to be able to maintain political networks (Tillack, 2015, pp. 59-60, 242-243). Most striking is the fact that the Federation of German Energy and Water Industry (BDEW) with her stakes in fossil and nuclear power plants is directed by the former Green politician and anti-nuclear activist Johannes Kempmann, which indicates that the old industry has no choice but to foster goodwill with the Left-ecological political spectrum. By contrast, the Renewables Federation (BEE) is headed by the CDU member Fritz Brickwedde, as the successor of the former SPD politician Dietmar Schütz, and the BEE's parliamentary advisory board is chaired by CDU politician Andreas Jung – renewables have ultimately conquered mainstream parties.

The entire electricity industry also began to lobby for the introduction of a so-called capacity market scheme, i.e. a promotion scheme for the provision of reliable generation capacity, which they describe as indispensable to save the economic survival of conventional power plants. On the other hand, the manufacturing industries remain reluctant, as they would have to bear the rising electricity costs resulting therefrom. As the economic coalition proves divided, policymakers apply a wait-and-see strategy and postpone the reform of the electricity market regime to some time after the current legislative term.

In the times of a Grand Green Coalition, with all parties in parliament sharing the vision of the energy transformation, it is very unlikely that the wheel of history is going to be turned back – in spite of all complications and hazards that have begun to surface. “It is hard to think of a messier and more wasteful way of shifting from fossil and nuclear fuel to renewable energy than the one Germany has blundered into. The price will be high, the risks are large and some effects will be the opposite of what was intended. Greenhouse-gas emissions are likely to be higher than they would have been for quite a while to come. But that does not mean the entire enterprise will fail. Politicians cannot reinvent the *Energiewende* on the run, but they can stay a step ahead of the risks and push back against the costs – and they are beginning to do so. In the end Germany itself is likely to be transformed”, the *Economist* is certain (2012). The *Guardian* was some more optimistic when applauding to the German role model a few years ago: “Germany sets shining example in providing a harvest for the world” (2007). We should hope that this vision becomes true.
